WHAT IS CLAIMED IS:

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- 1. An A^1 -B- A^2 triblock copolymer consisting of segments A^1 and A^2 each composed of a polymer having a depsipeptide unit, and segment B composed of polyalkylene glycol, said copolymer having a number average molecular weight of 8000 to 500000.
- 2. The triblock copolymer of claim 1, wherein said polymer having a depsipeptide unit is selected from the group consisting of a homopolymer of depsipeptide, and a copolymer of lactide and depsipeptide.
- 3. The triblock copolymer of claim 1, wherein said polyalkylene glycol is polyethylene glycol.
- 4. The triblock copolymer of claim 2, wherein said triblock copolymer is represented by the formula (1):

$$H = \begin{cases} 0 & \text{if } R \\ 0 & \text{if } R \end{cases}$$

$$V_{m} = \begin{cases} 0 & \text{if } R \\ 0 & \text{if } R \end{cases}$$

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wherein R stand for a hydrogen atom, CH_3 -, CH_3CH_2 -, $(CH_3)_2CH$ -, $(CH_3)_2CHCH_2$ -, $CH_3CH_2CH(CH_3)$ -, $C_6H_5CH_2$ -, $C_6H_5CH_2O(C=O)CH_2$ -, $C_6H_5CH_2O(C=O)CH_2CH_2$ -, $C_6H_5CH_2O(C=O)NH(CH_2)_4$ -, $C_6H_5(C=O)OCH_2$ -, $C_6H_5(C=O)OC(CH_3)H$ -, CH_3O - C_6H_4 -CH- SCH_2 -, or $CH_3(CH_2)_{t-1}$ -S- SCH_2 -, provided that t is a positive integer; x and y each represents the number of repeating units in

segments A^1 and A^2 , x is a number of 0 or more, y is a number of 1 or more, and x and y satisfy the formula $0.04 \le (y/(x+y))$ ≤ 1 ; m and n each represents a polymerization degree, m is a positive integer, and n is an integer of 100 to 1200.

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- 5. A method for producing a triblock copolymer of claim 4, comprising ring-opening polymerizing depsipeptide and lactide with a hydroxyl group at each end of polyethylene glycol having a polymerization degree of 100 to 1200, in the presence of a metal catalyst for ring-opening polymerization without a solvent.
- 6. A biocompatible material comprising an A^1-B-A^2 triblock copolymer of claim 1 as a main component.

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- 7. The biocompatible material of claim 6, wherein said triblock copolymer is a triblock copolymer of claim 4.
- 8. The biocompatible material of claim 7, wherein in the formula (1) representing said copolymer, x and y satisfy the formula $0.04 \le (y/(x+y)) \le 0.2$, and n is an integer of 250 to 455.
- 9. The biocompatible material of claim 6, wherein said polyalkylene glycol in segment B is polyethylene glycol, polypropylene glycol, or polybutylene glycol.

10. The biocompatible material of claim 7, wherein said biocompatible material is a tissue anti-adhesion barrier.